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**PRESCRIPTION PATTERNS AND EXPENDITURE OF ANTI-TNF AGENTS IN RHEUMATOID PATIENTS IN TAIWAN**

Chiu Y

Changhua Christian Hospital, Changhua City, Changhua County, Taiwan

**OBJECTIVES:** There was still no pharmacoepidemiologic study of tumor necrosis factor antagonist (Anti-TNF) in Taiwan. We analysis the drug cost and prescription pattern of anti-TNF agents, and the change of prescription pattern of tradition disease-modified anti-rheumatic drug (DMARD) when anti-TNF used. **METHODS:** This study utilizes National Health Insurance Database which cover more than 99% population in Taiwan. We analysis of the direct medical cost for RA patients from 1996 to 2007, and prescribe pattern of disease-modified anti-rheumatic drug (DMARD) and anti-TNF agents. **RESULTS:** The cost of anti-TNF agents accounted for 25% of total direct cost. But there was only about 5% RA patients been treated with this drug in Taiwan. The mean age of anti-TNF user was younger, but sex distribution seen no statistically difference in user and non-user group. In patients with anti-TNF use, the combined use of DMARD was decreased markedly. However, there is still some proportion of anti-TNF user have full dosage of DMARD treatment which suggest the possibility of inadequate response to anti-TNF agents in the population **CONCLUSIONS:** The percentage of anti-TNF agent use in RA patients is relative low in Taiwan. Some proportion of anti-TNF user still need full dosage DMARD and it may suggest the possibility of inadequate to anti-TNF agents in this group.

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**BISPHOSPHONATE THERAPY IN OSTEOPOROSIS: AN ANALYSIS FOCUSING ON DRUG CLAIMS BY SENIORS 2001 TO 2007**

Hunt J, Gaucher M

Canadian Institute for Health Information, Ottawa, ON, Canada

**OBJECTIVES:** Bisphosphonates are effective in reducing the risk of fractures and are used to prevent and treat osteoporosis. Between 2000 and 2007, new bisphosphonate chemicals and formulations were introduced into Canada, and new evidence and practice guidelines emerged. This analysis provides insight into bisphosphonate use among seniors during this time period. **METHODS:** Claims level data from the National Prescription Drug Utilization Information System (NPDUIS) Database were analyzed for seniors on public drug programs in six Canadian provinces between 2001–2002 and 2006–2007. The analysis looked at trends in bisphosphonates use by age and sex, by chemical, and by formulation (daily and weekly therapy). The analysis also looked at the medication possession ratio (MPR) for bisphosphonate users, a surrogate measure for compliance with therapy. **RESULTS:** The age-sex standardized rate of bisphosphonate use across all provinces increased from 8.9% in 2001–2002 to 12.9% in 2006–2007. The rate of use among females (20.4%) was more than six times the rate of use among males (3.3%). In 2006–2007, alendronate had the highest rate of use, at 5.9%, followed by etidronate at 4.9% and risedronate at 2.9%. There was a significant shift from the use of daily to the use of weekly therapy. The rate of use of weekly therapy increased from 0.1% to 8.4%, while use of daily therapy dropped from 9.3% to 5.3%. The surrogate measure for compliance showed little difference between patients on daily and weekly therapy. **CONCLUSIONS:** This analysis provides insight into how the introduction of new chemicals and dosage formulations affected bisphosphonate use among seniors between 2001–2002 and 2006–2007. There was a significant shift to the use of newer chemicals and weekly therapies. There was little difference in compliance between daily and weekly bisphosphonate users.

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**UTILISATION OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS IN QUEBEC, CANADA: IS THERE A CHANGE IN THE PATIENT RISK PROFILE AFTER THE WITHDRAWAL OF ROFECOXIB?**Rahme E<sup>1</sup>, Roussy JP<sup>2</sup>, Lafrance JP<sup>3</sup>, Nedjar H<sup>1</sup>, Morin S<sup>4</sup>

<sup>1</sup>McGill University Health Centre, Montréal, QC, Canada, <sup>2</sup>Pfizer Canada, Kirkland, QC, Canada, <sup>3</sup>Hôpital Maisonneuve-Rosemont, Montréal, QC, Canada, <sup>4</sup>Hôpital Général de Montréal, Montréal, QC, Canada

**OBJECTIVES:** Traditional nonsteroidal anti-inflammatory drug (tNSAID) utilisation has recently increased considerably in the elderly in spite of their higher gastrointestinal (GI) toxicity and an increasing body of evidence pointing to similar cardiovascular (CV) safety compared to celecoxib. The objective is to describe the profile of patients who used celecoxib and tNSAIDs between April 1, 2005 and March 31, 2007 (post-rofecoxib withdrawal period) versus April 1, 2002 and March 31, 2004 (pre-rofecoxib withdrawal period) in Quebec, Canada. **METHODS:** Data were obtained from the physician and medication claims databases of the Quebec Health Insurance Agency. All patients 50 years of age and older who used celecoxib or tNSAIDs during the study periods were included. Patients were categorized by GI, CV, congestive heart failure (CHF) and renal risk factors and four risk categories were considered (low, moderate, high, and very high) in each condition. **RESULTS:** The numbers of patients on celecoxib were 145,596 and 178,714 in the post- vs. pre-period, while those on tNSAIDs were 249,433 and 120,809, respectively. Logistic regression models revealed that users of celecoxib vs. tNSAIDs were more likely to have higher GI risk levels in both periods [post-period (vs. low risk): very high 1.79 (95%CI: 1.63, 1.97), high 1.76 (1.71, 1.81) and moderate 1.30 (1.27, 1.33)]. While users of celecoxib had higher CV risk levels in the pre-period compared to tNSAIDs, their very high CV risk level in the post-period was lower [post-period (vs. low risk): very high 0.85 (0.81, 0.89), high 1.13 (1.10, 1.16) and moderate 1.15 (1.12, 1.17)]. In both periods, the impact of CHF and renal risks on the choice of celecoxib vs. tNSAIDs appears to be less important. **CONCLUSIONS:** Currently, patients at very high CV risk seem to be less

likely to receive celecoxib vs. tNSAIDs, while those with GI risk factors seem more likely to receive celecoxib.

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**RACIAL AND ETHNIC DISPARITIES IN TOTAL KNEE REPLACEMENT SURGERY**Kotlarz H<sup>1</sup>, Chen J<sup>2</sup>, Rizzo J<sup>3</sup>, Gunnarsson C<sup>4</sup>

<sup>1</sup>DePuy Orthopaedics, a Johnson & Johnson company, Warsaw, IN, USA, <sup>2</sup>College of Staten Island, Staten Island, NY, USA, <sup>3</sup>Stony Brook University, Stony Brook, NY, USA, <sup>4</sup>S2 Statistical Solutions Inc, Cincinnati, OH, USA

**OBJECTIVES:** To examine racial and ethnic disparities in receiving total knee replacement surgery among eligible patients. **METHODS:** Using a nationally-representative inpatient care dataset, the HCUP National Inpatient Sample, from 1998 to 2007, we had an available sample of 809,750 Caucasians, 74,869 African-Americans, 48,010 Latinos, 8,976 Asians, and 2,554 Native Americans who were eligible for total knee replacement surgery based on their ICD 9 codes. Multivariable logistic regressions were used to estimate the racial and ethnic disparities in the rates of actually receiving knee replacement surgery among these eligible subjects. Blinder-Oaxaca decomposition techniques were employed to determine the extent to which racial and ethnic disparities reflect differences in observable population characteristics versus unobserved heterogeneity across racial and ethnic groups. **RESULTS:** Approximately 90% of Caucasians, 70% of African-Americans, 75% of Latinos and Asians, and 83% of Native Americans who were eligible to receive total knee replacement surgery actually did receive it. These disparities persisted in the multivariable analyses. Compared to Caucasians, the odds of having the total knee surgery was 0.46 for African Americans (p < 0.0001), 0.49 for Latinos (p < 0.0001), 0.45 for Asians (p < 0.0001), and 0.67 for Native Americans (p < 0.0001). The Blinder-Oaxaca decomposition showed that 39%–59% of the observed differences in the racial and ethnic disparities in receiving the total knee replacement surgery can be explained by observed population characteristics, most important of which are differences in age and health insurance coverage by race and ethnicity. **CONCLUSIONS:** Substantive racial and ethnic disparities exist in total knee replacement surgery among the eligibles. Observable population characteristics account for most of the differences, with age and health insurance key factors driving racial and ethnic disparities in receiving this surgery. Unobserved heterogeneity, which may include physician-patient relationships, mistrust, and cultural factors, are also related to these disparities.

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**RACIAL AND ETHNIC DISPARITIES IN TOTAL HIP REPLACEMENT SURGERY**Kotlarz H<sup>1</sup>, Chen J<sup>2</sup>, Rizzo J<sup>3</sup>, Gunnarsson C<sup>4</sup>

<sup>1</sup>DePuy Orthopaedics, a Johnson & Johnson company, Warsaw, IN, USA, <sup>2</sup>College of Staten Island, Staten Island, NY, USA, <sup>3</sup>Stony Brook University, Stony Brook, NY, USA, <sup>4</sup>S2 Statistical Solutions Inc, Cincinnati, OH, USA

**OBJECTIVES:** To examine racial and ethnic disparities in receiving total hip replacement surgery among eligible patients. **METHODS:** Using a nationally-representative inpatient care dataset, the HCUP National Inpatient Sample, from 1998 to 2007, we had an available sample of 317,766 Caucasians, 34,339 African Americans, 18,138 Latinos, 3,805 Asians, and 923 Native Americans who were eligible for the total hip replacement surgery. Multivariable logistic regressions were used to estimate the racial and ethnic disparities of actually receiving the replacement surgery among eligible patients. The Blinder-Oaxaca decomposition techniques were employed to determine the extent to which disparities reflect differences in observable population characteristics versus unobserved heterogeneity across racial and ethnic groups. **RESULTS:** Approximately 77% of Caucasians, 51% of African Americans, 46% of Latinos, 51% of Asians, and 56% of Native Americans who were eligible to receive total hip replacement surgery actually received it. These disparities persisted in the multivariable regressions. Compared to Caucasians, the odds of having total hip replacement surgery was 0.52 for African Americans (p < 0.0001), 0.41 for Latinos (p < 0.0001), 0.44 for Asians (p < 0.0001), and 0.47 for Native Americans (p < 0.0001). The Blinder-Oaxaca decomposition method revealed that 43%–53% of the observed differences between Caucasians vs. African Americans, Latinos, and Asians in receiving total hip replacement surgery can be explained by observed population characteristics, among which differences in age, health insurance coverage, and gender are the major factors associated with these disparities. In contrast, observed population characteristics only explained 3% of the differences between Caucasians vs. Native Americans. **CONCLUSIONS:** Substantive racial and ethnic disparities exist in total hip replacement surgery. Observable population characteristics account for most of these differences (with the exception of Native Americans), with age and health insurance being key factors. Unobserved heterogeneity such as unobserved physician-patient relationships, mistrust, and cultural factors, is also related to the disparities, especially for the disparities between Caucasians and Native Americans.